

WHAT IS CLAIMED IS:

1. A thermoelectric system comprising:
a plurality of N-type thermoelectric elements and a plurality of P-type thermoelectric elements;
a plurality of first shunts and a plurality of second shunts, at least some of the first shunts sandwiched between at least one of the N-type thermoelectric elements and at least one of the P-type thermoelectric elements, and at least some of the second shunts sandwiched between at least one of the P-Type thermoelectric elements and at least one of the N-Type thermoelectric elements, so as to form a stacked configuration of thermoelectric elements and with alternating first and second shunts, wherein at least some of the first shunts and at least some of the second shunts project away from the stack in differing directions. .
2. The thermoelectric system of Claim 1, further comprising a current source electrically coupled to the stack, the drive current traversing through the heat transfer devices and thermoelectric elements in series.
3. The thermoelectric system of Claim 1, wherein the heat transfer devices thermally isolate at least some of the P-type thermoelectric elements from at least some of the N-type thermoelectric elements.
4. The thermoelectric system of Claim 1, wherein the heat transfer devices accept a working fluid to flow through them in a defined direction
5. The thermoelectric system of Claim 4, wherein the heat transfer devices are heat exchangers comprising a housing with heat exchanger elements inside.
6. The thermoelectric system of Claim 1, wherein at least some of the first shunts are constructed of a first electrode portion electrically isolated from and thermally coupled to a second shunt portion.